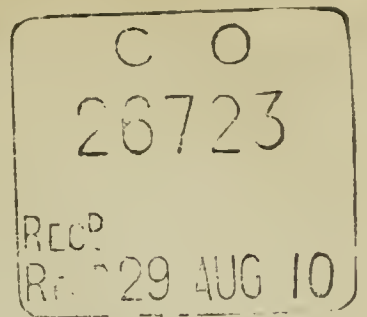


Federated Malay States.



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THE MEDICAL REPORT
FOR THE
STATE OF PERAK,
1909.

RETURN OF THE STATISTICS OF POPULATION OF PERAK
FOR THE YEAR 1909.

	Europeans.	Eurasians.	Chinese.	Malays.	Tamils.	Others.	Total.
No. of Inhabitants on the 31st December, 1908 ...	3,060	202,579	165,597	33,293	564	405,093	
„ Births during the year 1909	64	2,058	6,265	1,090	29	9,506	
„ Deaths „ „	28	6,223	3,527	2,870	30	12,678	
„ Immigrants „ „	713	21,151	8,577	5,833	...	36,274	
„ Emigrants „ „	736	27,350	8,068	5,984	...	42,138	
„ Inhabitants on the 31st December, 1909 ...	3,073	192,215	168,844	31,362	563	396,057	
Increase	13	...	3,247				
Decrease	...	10,364	...	1,931	1		

METEOROLOGICAL RETURN OF TAIPING FOR THE YEAR 1909.

	Temperature.						Rainfall.		Winds.	
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.
January	155	66	91	70	21	78.43	25.17	82	Not recorded.	Not recorded.
February	152	66	91	70	21	77.79	20.87	85		
March	151	66	92	71	21	80.06	29.28	81		
April	152	67	93	71	22	79.35	32.65	85		
May	152	68	94	72	22	80.89	8.73	81		
June	151	67	94	72	22	80.56	5.65	78		
July	156	60	94	69	25	80.65	2.64	75		
August	149	67	93	71	22	79.38	15.74	79		
September	149	66	93	70	23	80.24	7.76	78		
October	156	66	92	71	21	79.91	14.61	79		
November	152	68	92	72	20	79.07	9.80	81		
December	152	67	92	70	22	79.18	8.60	80		
Mean	152	66	92	70	22	79.63	181.50 Total	80		

RETURN OF DISEASES AND DEATHS IN 1909 AT THE FOLLOWING INSTITUTIONS:

FOURTEEN DISTRICT HOSPITALS, AT TAIPING, KUALA KANGSAR, BATU GAJAH, GOPENG, IPOH, KAMPAR, TELOK ANSON, TAPAH, PARIT BUNTAR, BAGAN SERAI, SELAMA, LENGGONG, TANJONG MALIM AND GRIT; ONE MALAY HOSPITAL, AT KUALA KANGSAR; TWO GAOL HOSPITALS, AT TAIPING AND BATU GAJAH; ONE LUNATIC ASYLUM, AT TAIPING; TWO LEPER ASYLUMS, AT PULAU JEREJAK AND PULAU PANGKOR LAUT.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
GENERAL DISEASES.					
Small-pox	1	...	...	1	
Chicken-pox	...	24	...	24	
Measles	...	1	...	1	
Typhus					
Dengue	...	3	...	3	
Influenza	...	2	...	2	
Plague					
Mumps	...	6	...	6	
Diphtheria					
Febricula	...	2	...	2	
Enteric Fever	3	32	9	35	
Cholera					
Dysentery	142	2,958	769	3,100	123
Yellow Fever					
Beri-beri	365	1,413	184	1,778	191
Malarial Fever—					
(a) Intermittent—					
Quotidian	33	502	4	535	7
Tertian	50	3,113	115	3,163	100
Quartan	11	273	18	284	15
Irregular	...	14	...	14	
Type undiagnosed	62	2,085	70	2,147	58
(b) Remittent	2	51	9	53	
(c) Pernicious R.	11	1,197	210	1,208	47
Phagedæna—					
(a) Sloughing	17	66	15	83	8
(b) Hospital gangrene	...	1	1	1	
Erysipelas	...	29	7	29	2
Carried forward ...	697	11,772	1,411	12,469	551

* i.e., the year previous to that for which the Return is made.

† “Total cases treated” will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year’s Return.

Diseases.						* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
							Admis- sions.	Deaths.		
<i>Brought forward</i> ...						697	11,772	1,411	12,469	551
GENERAL DISEASES—(<i>cont.</i>)										
Pyæmia	...	...	...	...	...	...	1	1	1	
Septicæmia	...	...	...	...	...	...	4	2	4	
Tetanus	...	...	...	...	...	...	3	3	3	
Tubercle	...	...	...	...	...	4	34	4	38	2
Leprosy—	...	...	...	...	...					
(<i>a</i>) Tubercular	...	...	...	...	...	177	271	62	448	240
(<i>b</i>) Anæsthetic	...	...	...	...	...					
Yaws	...	...	...	...	...	...	12	...	12	
Syphilis—	...	...	...	...	...					
(<i>a</i>) Primary	...	...	...	...	...	14	153	2	167	5
(<i>b</i>) Secondary	...	...	...	...	...	70	1,601	52	1,671	121
(<i>c</i>) Inherited	...	...	...	...	...	1	17	1	18	3
Gonorrhœa	...	...	...	...	...	16	535	6	551	16
Hydrophobia	...	...	...	...	...					
Scurvy	...	...	...	...	...	...	1	1	1	
Alcoholism	...	...	...	...	...	...	8	...	8	
Delirium Tremens	...	...	...	...	...	...	2	...	2	
Rheumatic Fever	...	...	...	...	...	...	1	...	1	1
Rheumatism	...	...	...	...	...	6	236	3	242	8
Gout	...	...	...	...	...					
New Growths, non-malignant	...	...	...	...	...	4	22	1	26	1
Do. malignant	...	...	...	...	...	1	34	17	35	4
Rickets	...	...	...	...	...					
Anæmia	...	...	...	...	...	16	330	36	346	10
Myxœdema	...	...	...	...	...					
Diabetes mellitus	...	...	...	...	...	...	2	1	2	
Do. insipidus	...	...	...	...	...					
Debility	...	...	...	...	...	27	452	58	479	14
Other Diseases	...	...	...	...	...	8	138	8	146	3
<i>Carried forward</i> ...						1,041	15,629	1,669	16,670	979

* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,041	15,629	1,669	16,670	979
LOCAL DISEASES.					
NERVOUS SYSTEM.					
Sub-Section 1—					
Neuritis	2	52	1	54	4
Meningitis	...	6	6	6	
Myelitis	1	4	1	5	
Hydrocephalus					
Encephalitis					
Abscess of brain					
Congestion of brain					
Sub-Section 2—					
Apoplexy	...	4	3	4	
Paralysis	9	61	9	70	11
Bed-sore	...	4	1	4	
Chorea					
Epilepsy	...	22	2	22	1
Neuralgia	...	24	...	24	
Hysteria	...	1	...	1	
Sub-Section 3—					
Idiocy	2	5	4	7	3
Mania	33	51	12	84	41
Melancholia	38	20	8	58	37
Dementia	8	14	4	22	12
Delusional Insanity	45	61	8	106	57
Other Diseases of the System	19	143	19	162	26
EYE.					
Conjunctiva—					
Conjunctivitis	5	148	...	153	25
Cornea—					
Keratitis	2	13	...	15	2
Ulceration	5	94	2	99	6
Opacity	1	20	...	21	1
<i>Carried forward</i> ...	1,211	16,376	1,749	17,587	1,205

* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,211	16,376	1,749	17,587	1,205
LOCAL DISEASES—(<i>cont.</i>)					
EYE—(<i>cont.</i>)					
Schlerotic—					
Staphyloma... ..	...	3	...	3	1
Iris—					
Iritis	...	24	...	24	3
Glaucoma	...	...	...	...	...
Hypopyon	1	9	2	10	1
Lens—					
Cataract	4	22	...	26	5
Eyelids—					
Entropion	1	9	...	10	2
Other Eye Diseases	2	51	...	53	2
EAR.					
Inflammation	...	20	...	20	...
Other Ear Diseases	...	34	1	34	...
NOSE.					
Inflammation	...	5	...	5	1
Other Nose Diseases	...	7	...	7	...
CIRCULATORY SYSTEM.					
Membranes—					
Pericarditis	...	3	2	3	...
Endocarditis	...	1	1	1	...
Valvular Diseases	6	117	43	123	5
Muscular Substance—					
Hypertrophy	...	1	1	1	...
Dilatation	1	4	1	5	...
Other Diseases of the System	1	25	4	26	...
RESPIRATORY SYSTEM.					
Larynx—					
Laryngitis	...	9	...	9	...
<i>Carried forward</i> ...	1,227	16,720	1,804	17,947	1,225

* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,227	16,720	1,804	17,947	1,225
LOCAL DISEASES—(cont.)					
RESPIRATORY SYSTEM—(cont.)					
Bronchi—					
Bronchitis	20	493	11	513	14
Asthma	9	123	5	132	2
Lung—					
Congestion					
Hæmoptysis		9	2	9	1
Pneumonia	13	303	148	316	8
Gangrene		1	1	1	
Phthisis	55	748	403	803	49
Emphysema		5		5	
Pleura—					
Pleurisy	4	79	14	83	
Empyema	1	9	7	10	
Other Diseases of the System		18	2	18	
DIGESTIVE SYSTEM.					
Mouth—					
Stomatitis		26	1	26	
Dental Periostium—					
Gum-boil		19		19	1
Fauces—					
Tonsillitis		16		16	
Stomach—					
Gastritis	1	38	3	39	1
Dyspepsia	7	214	5	221	2
Intestines—					
Enteritis		25	4	25	1
Sprue	1	8	4	9	
Hernia	2	32	1	34	2
Constipation	2	218	2	220	1
Diarrhœa	21	707	122	728	21
<i>Carried forward</i> ...	1,363	19,811	2,539	21,174	1,328

* i.e., the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,363	19,811	2,539	21,174	1,328
LOCAL DISEASES—(cont.)					
DIGESTIVE SYSTEM—(cont.)					
Rectum and Anus—					
Hemorrhoids ...	1	54	...	55	4
Liver—					
Hepatitis ...	2	15	2	17	
Abscess Liver ...	2	13	8	15	1
Cirrhosis ...	3	92	43	95	8
Congestion Liver ...	...	3	...	3	
Jaundice ...	2	31	9	33	
Peritoneum—					
Peritonitis ...	1	15	11	16	1
Ascites ...	7	67	30	74	4
Other Diseases of the System ...	2	225	18	227	7
LYMPHATIC SYSTEM.					
Spleen—					
Splenitis ...	7	179	3	186	11
Bubo ...	12	239	1	251	18
Lymphangitis ...	1	22	1	23	1
Elephantiasis ...	...	9	...	9	
Other Diseases of the System ...	1	17	2	18	2
URINARY SYSTEM.					
Kidney—					
Acute Nephritis ...	9	134	33	143	12
Bright's Disease ...	32	140	49	172	12
Hæmaturia ...	...	4	...	4	
Chyluria ...	...	1	1	1	
Bladder—					
Cystitis ...	1	17	1	18	
Calculus ...	1	4	1	5	
Other Diseases of the System ...	...	28	3	28	3
<i>Carried forward</i> ...	1,447	21,120	2,755	22,567	1,412

* i.e., the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,447	21,120	2,755	22,567	1,412
LOCAL DISEASES—(cont.)					
GENERATIVE SYSTEM.					
Urethra—					
Stricture ...	1	20	1	21	
Prepuce—					
Phimosis ...	4	37	...	41	
Paraphimosis ...	1	20	...	21	1
Penis—					
Soft Chancre ...	14	306	1	320	15
Scrotum—					
Sloughing Scrotum ...	...	15	3	15	1
Tunica Vaginalis—					
Hydrocele ...	3	34	1	37	2
Testicle—					
Orchitis ...	2	64	2	66	3
Epididymitis ...	1	10	...	11	
Other Diseases (male) ...	...	45	3	45	4
Uterus—					
Metritis ...	...	2	...	2	
Uterine Displacements ...	...	3	...	3	
Amenorrhœa ...	...	8	...	8	
Dysmenorrhœa ...	...	1	...	1	
Menorrhagia ...	...	...	...	...	
Leucorrhœa ...	...	5	...	5	
Other Diseases (female) ...	1	124	6	125	4
ORGANS OF LOCOMOTION.					
Bones—					
Ostitis ...	...	2	...	2	
Periostitis ...	2	23	...	25	
Caries ...	2	25	2	27	4
Necrosis ...	6	45	5	51	3
<i>Carried forward</i> ...	1,484	21,909	2,779	23,393	1,449

* i.e., the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,484	21,909	2,779	23,393	1,449
LOCAL DISEASES—(cont.)					
ORGANS OF LOCOMOTION—(cont.)					
Joints—					
Synovitis	4	64	4	68	2
Ankylosis	3	3	...	6	2
Spine—					
Caries Spine	...	1	...	1	
Curvature Spine	...	4	...	4	
Muscles—					
Myalgia	...	32	...	32	
Other Diseases	5	83	4	88	7
CONNECTIVE TISSUE.					
Cellulitis	3	83	9	86	2
Abscess	33	648	19	681	29
Gangrene	...	12	6	12	1
SKIN.					
Eczema	15	285	2	300	9
Psoriasis	...	7	...	7	1
Herpes... ..	2	8	...	10	
Do. Zoster... ..	...	11	...	11	
Ulcer	288	4,421	73	4,709	252
Boil	1	46	...	47	1
Carbuncle	3	30	4	33	2
Onychia	2	24	...	26	5
Whitlow	2	13	...	15	
Other Diseases	5	160	1	165	8
GENERAL INJURIES.					
Burns and Scalds	3	6	4	9	
Sunstroke	...	1		1	
Multiple Injury	...	30	6	30	3
<i>Carried forward</i> ...	1,853	27,881	2,911	29,734	1,773

* i.e., the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1908.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1909.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,853	27,881	2,911	29,734	1,773
GENERAL INJURIES—(<i>cont.</i>)					
Starvation	1	14	8	15	
Shock	...	2	...	2	1
LOCAL INJURIES.					
Burns and Scalds	3	79	6	82	3
Wounds	38	1,295	8	1,333	49
Sprains	...	46	...	46	
Dislocations	1	20	...	21	
Fractures, simple	10	147	15	157	13
Do. compound... ..	8	54	8	62	5
Other Injuries	11	346	9	357	19
SURGICAL OPERATIONS	5	105	3	110	10
MALFORMATIONS					
POISONS.					
Mercury	...	6	...	6	
Alcohol	...	3	...	3	
Opium... ..	...	11	4	11	
Other Poisons... ..	...	10	1	10	
POISONED WOUNDS	5	52	...	57	1
PARASITES.					
Distomum Sinense	...	23	3	23	2
Tœnia Solium... ..	...				
Ascaris Lumbricoides	4	204	2	208	4
Ankylostomum Duodenale	28	789	96	817	50
Oxyuris Vermicularis					
Filaria Medinensis	...	12	...	12	
Acarus Scabiei	11	319	2	330	8
Tinea Circinata	...	49	...	49	
Other Parasites	...	23	1	23	1
UNDER OBSERVATION	6	251	...	257	27
TOTAL ...	1,984	31,741	3,077	33,725	1,966

* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

FEDERATED MALAY STATES.

STATE OF PERAK.

MEDICAL REPORT FOR THE YEAR 1909.

STATISTICS OF POPULATION.

As has frequently been pointed out these statistics are merely approximate, the ingress and egress by the railway being completely left out of account. For the year 1908 the total population was estimated as 405,093, and for the year under review, 396,057, being a reduction of 9,036. This is due to several factors, among which are the great excess of deaths over births amongst Chinese and Tamils, as is unfortunately usual, combined with the excess of emigrants over immigrants, which in the case of the Chinese has no doubt been influenced by the fall in the price of tin. It is a pleasing feature to note that the number of the Malays seems to steadily increase.

The population returns for 1909 show an increase among Europeans and Eurasians of 13, and Malays of 3,247, but a decrease of 10,364 Chinese and 1,931 Tamils.

2. BIRTHS.—The number registered during the year was 9,506, being a decrease over 1908 of 84.

The birth-rate per mille during 1909 was 24; the figures for last year being 23.67.

The following is a comparative table of births for the past two years :

Year.	Europeans and Eurasians.	Chinese.	Malays.	Tamils.	Others.
1908 ...	52	1,901	6,525	1,096	16
1909 ...	64	2,058	6,265	1,090	29

3. DEATHS.—The number registered during the year was 12,678, being a decrease of 3,003 over 1908.

The death-rate per mille during 1909 was 32.01 against 38.70 recorded for the previous year. This reduction in the mortality was chiefly amongst the Chinese as the subjoined table will show :

Year.	Europeans and Eurasians.	Chinese.	Malays.	Tamils.	Others.
1908 ...	34	8,609	3,902	3,091	45
1909 ...	28	6,223	3,527	2,870	30

MEDICAL INSTITUTIONS.

4. (a) On the 31st December, 1908, there remained 1,984 patients in the nineteen hospitals (the Malay hospital at Kuala Kangsar not having been occupied at that date.)

(b) During the year the admissions for the twenty institutions (Malay hospital having been opened on the 16th February) amounted to 31,741, the figures for 1908 being 33,594.

(c) The total treated was, therefore, 33,725 against 35,595 for the previous year.

(d) The number discharged (including those who absconded) was 28,442 against 28,332 the year before.

(e) Two hundred and forty patients were transferred—being either sent to Pulau Jerejak and Pulau Pangkor Laut, or overflows from crowded hospitals.

(f) Three thousand and seventy-seven deaths occurred compared with 4,868 for the previous year, a decrease of no less than 1,791. Six hundred and sixty of these deaths took place within 48 hours of admission.

The percentage of deaths to the total treated was 9.12 as compared with 13.68 for 1908. I would particularly draw attention to the fact that for the past twenty-three years no such record has been achieved, this being the first time, during the above period, that the death-rate has not actually run into double figures. Be the explanation what it may the result is most gratifying.

The following table is interesting :

Hospital.	Deaths.				Percentage.			
	1908.		1909.		1908.		1909.	
Taiping	671	...	462	...	16.84	...	14.48	
Kuala Kangsar...	287	...	196	...	15.02	...	11.73	
Do. Malay Hospital ...	—	...	10	...	—	...	3.38	
Batu Gajah ...	593	...	328	...	14.91	...	9.44	
Gopeng ...	367	...	204	...	15.08	...	8.91	
Ipoh ...	1,104	...	681	...	17.18	...	10.73	
Kampar...	620	...	397	...	16.26	...	8.96	
Telok Anson ...	175	...	128	...	7.82	...	6.41	
Tapah ...	470	...	236	...	15.63	...	9.60	
Parit Buntar ...	118	...	141	...	5.83	...	6.35	
Bagan Serai ...	166	...	114	...	7.11	...	4.69	
Selama ...	8	...	4	...	10.39	...	3.88	
Lenggong ...	19	...	20	...	4.33	...	4.66	
Tanjong Malim...	69	...	41	...	8.42	...	5.10	
Grit ...	38	...	12	...	11.45	...	3.49	
Convict Establish- ment	18	...	10	...	3.17	...	1.40	
Batu Gajah Gaol	14	...	6	...	1.99	...	1.53	
Lunatic Asylum...	88	...	43	...	29.33	...	13.10	
Pulau Jerejak ...	38	...	42	...	23.75	...	18.18	
Pulau Pangkor Laut	5	...	2	...	10.64	...	4.34	
	4,868	...	3,077	...	13.68	...	9.12	

5. The daily average of sick in the fifteen District Hospitals was 1,531.76, being a slightly lower figure than that for 1908.

6. The number of the patients remaining on the 31st December, 1909, was 1,966.

7. The nationality of the patients treated at the principal institutions is shown in the table below:

Station.	Europeans.	Eurasians.	Chinese.	Malays.	Tamils.	Others.
Taiping	46	23	1,629	42	1,340	109
Kuala Kangsar	...	...	915	23	647	85
Do. Malay Hospital	...	...	...	256	...	39
Batu Gajah	38	3	1,854	47	1,034	497
Gopeng	...	...	1,694	69	449	77
Ipoh	...	...	3,785	205	2,020	333
Kampar	...	...	2,921	59	878	124
Telok Anson	3	5	257	59	1,151	520
Tapah	1	3	880	57	1,287	229
Parit Buntar	2	1	664	38	1,461	54
Bagan Serai	...	1	984	25	1,392	25
Selama	...	...	38	13	50	2
Lenggong	...	...	131	40	252	6
Tanjong Malim	1	...	251	17	514	20
Grit	...	...	135	50	142	16
	91	36	16,138	1,000	12,617	2,136

32,018

THE MALAY HOSPITAL.

8. This institution has proved an unqualified success, no less than 295 patients being treated during the $10\frac{1}{2}$ months the institution has been opened.

His Highness the Sultan has from the first taken much interest in the hospital, and to him in great part is due its prosperity.

9.

GAOL HOSPITALS.

Hospital.			Total treated.	Total deaths.	Daily average.		Percentage of deaths.
					Sick in hospital.	Prisoners in gaol.	
Convict Establishment,							
Taiping	...	1908 ...	568	18	28.30	603.23	3.17
Do.		1909 ...	712	10	26.07	779.96	1.40
Batu Gajah Gaol		1908 ...	704	14	22.76	310.96	1.99
Do.		1909 ...	390	6	15.73	253.63	1.53

The health of both these establishments show improvement over the previous year.

At Batu Gajah there were but three admissions of beri-beri and at the Convict Establishment six. Dr. Wood remarks that none of these latter contracted the disease in the gaol.

LEPER ASYLUMS.

10. (a) At Pulau Pangkor Laut 46 lepers were treated during the year. There were two deaths, giving a death-rate of 4.34 as compared with 10.64 for 1908.

There were but seven admissions during the year, and it appears that many Malay lepers exist who elude certification.

(b) At Pulau Jerejak 231 were treated, of which number nine absconded and 42 died.

The death-rate was 18.18 as against 23.75 for 1908.

The number of Chinese lepers found in Perak has greatly increased, so much so that it has been necessary to provide for a new ward to be constructed in 1910.

LUNATIC ASYLUM.

11. In spite of great overcrowding existing at the asylum the death-rate is the lowest for the past six years:

Year.					Total treated.	Discharged.			Percentage of Deaths.
1904 ...	...	...	...	...	275	...	93	...	21.81
1905 ...	...	...	...	...	270	...	78	...	14.81
1906 ...	...	...	...	...	320	...	92	...	26.56
1907 ...	...	...	...	...	313	...	106	...	18.84
1908 ...	...	...	...	...	300	...	75	...	29.33
1909 ...	...	...	...	...	328	...	117	...	13.10

Out of the 43 deaths but one was due to beri-beri. And, at the time of writing, the institution is free from the disease.

WOMEN'S HOSPITAL.

12. The number of patients in this institution has steadily fallen during the last five years as the figures below will show :

								Indoor.	Outdoor.
1905 ...	...	...	...	...	...	...	...	80	3,167
1906 ...	...	...	...	...	...	...	...	69	2,091
1907 ...	...	...	...	...	...	...	...	60	1,419
1908 ...	...	...	...	...	...	...	...	26	742
1909 ...	...	...	...	...	...	...	...	23	402

I most strongly advise its closing. The women are, in most cases, perfectly willing to be treated at the District Hospital, and as a fact are so treated, in large numbers, every year.

OUTDOOR DEPARTMENT.

13. (a) DISPENSARIES ATTACHED TO HOSPITALS—

				New cases.	Repetitions.			Total visits.
1908...	...	...	...	43,263	...	19,690	...	62,953
1909...	...	...	...	42,390	...	20,349	...	62,739

(b) TRAVELLING DISPENSARIES—

				New cases.	Repetitions.			Total visits
1908...	...	...	...	24,704	...	8,687	...	33,391
1909...	...	...	...	25,675	...	10,599	...	36,274

It is satisfactory to note that the number of the labouring classes availing themselves of these dispensaries is increasing.

VACCINATION.

14. The total number of vaccination during the year was 11,367, being an increase of 660 over 1908. Out of these, 80.93 per cent were perfect, a result above the average.

VETERINARY BRANCH.

15. (a) RINDERPEST—

An outbreak of this disease occurred at Port Weld towards the end of February.

In the Quarantine Station at the time there were 146 animals, and of this number no less than 116 died.

Twenty-one animals died before the anti-rinderpest serum was brought into use, and out of the 105 animals inoculated 95 died—a result such as this can only have been due to bad serum.

Another outbreak happened at Telok Anson in November, 335 animals being in the Quarantine Station at the time, of this number 149 contracted the complaint, out of which 78 died, 66 were shot, one recovered, four remained under treatment on the 31st December.

The serum was inoculated in 65 cases, and of this number 34 subsequently developed the disease.

Mr. Short suggests that serum should be prepared in the Federated Malay States. It seems that some such measure is necessary, for on no less than two occasions lately, the Indian Civil Veterinary Department have been unable to execute our indents.

(b) FOOT-AND-MOUTH DISEASE of a mild type occurred in Larut and Matang, but no deaths were recorded.

(c) SWINE FEVER broke out at Ayer Kuning in June, causing the death of nine pigs, the disease, however, did not spread.

At Matang also in November, six pigs died from this complaint, and at Pasir Itam a whole litter of pigs, imported from Bukit Mertajam, died, not, however, before they had infected eight other pigs in the same sty.

(d) SURRA.—In Krian seven ponies were affected with this complaint, out of which number two died and five were shot.

(e) RABIES.—Two cases were discovered in Taiping. Fifteen dogs known either to have been bitten or to have been in contact with these were destroyed.

(f) FOWL CHOLERA occurred in Taiping in August. Bacteriologically it was identified with the European type.

(g) Mr. Moir did some most interesting work on the differentiation of buffaloes and cow's milk, by means of anti-sera produced in rabbits. As he points out the differentiation is most important, seeing that no less than 50 per cent. of water can be added to buffaloes milk, without the fat percentage falling below the standard for cow's milk.

REMARKS ON PARTICULAR DISEASES.

16. MALARIA.—The total number of in-patients treated numbered 7,404, being slightly in excess of the previous year; the deaths, however, have fallen considerably as shown below:

	Treated.			Deaths.			Percentage.	
	1908	1909		1908	1909		1908	1909
Malarial fevers ...	7,310	7,404	...	474	426	...	6.48	5.75

For some reason the number of cases have increased at Ipoh and Kampar, whereas at several other stations the opposite has been the case.

PROPHYLAXIS OF MALARIA.—It would serve no useful purpose to serve up a *réchauffé* of Ross's valuable work on the subject, but it is perhaps as well to consider which of his methods is best suited to Perak.

For the larger towns there can be little doubt that anopheline reduction, by means of general sanitation and good surface drainage, has in the past, and is still justifying the financial outlay.

For rural districts such methods are out of the question and we must look to other means. Much has been written on the pouring of kerosene on the surface of all collections of water in the neighbourhood of kampongs, etc., the expense of this is, however, great, and most unfortunately lends itself to methods of speculation; one can imagine that much of the kerosene given out would go elsewhere than on the surface of the waters.

In passing one may notice the method of protecting the individual against the bites of mosquitoes by nets, etc. In the case of Malay children this is not practical, and may be put out of court.

Dr. Peart, in his report, refers to a most important procedure—namely, that suggested by Dr. Prout of cinchonising all children with enlarged spleens. We are, as a matter of fact, about to send out quantities of quinine for distribution among the kampong Malays.

I suggest that the schoolmaster of each kampong should keep a register, and give quinine (in varying doses according to age) to each boy suffering from chronic kora. The quinine must be given twice daily and continued for four months at least. I have myself verified the statement that gametes of all types of malaria may be found in the blood for some weeks, in spite of the patient taking 10 grains of quinine three times daily.

It is the general opinion that the native has in the past known little of the beneficial effects of quinine, and even when they take advantage of the method, do not continue it after the fever is subdued.

It must be remembered that quinine is not only a method of treatment for the particular individual, but is also a means for protecting the sufferer's neighbours, since having taken the drug and driven the parasite from his blood thereby, he is not the possible source of infection to his fellow-men that he was before.

So every man who takes quinine for his kora over a period of several months, will not only mean one man cured but many others protected.

This method of thoroughly controlled quinine administration, over prolonged periods, will be, I think, our strongest line of defence in the rural districts.

17. **BERI-BERI.**—During the year only 1,778 cases were treated as compared with 3,618 for the previous year. The mortality also has very considerably fallen, as will be seen from the subjoined table:

Year.	Number of cases treated.				Deaths.	Percentage of deaths.			
1908	...	...	...	...	3,618	...	838	...	23.16
1909	...	...	...	...	1,778	...	184	...	10.34

Inundated with perennial new theories on this subject it is a pleasure to report on the success which has crowned the labours of our Institute of Medical Research. In the last Brochure of Studies, Drs. Fraser and Stanton have set forth, in epitomised form, their most recent findings.

It has long been recognised that fowls fed on rice, known to have been associated with an outbreak of beri-beri, will develop a disease, which whether or not it be analogous to that complaint, can at any rate be taken as an indicator as to the likelihood of such rice being capable of producing beri-beri in man. They point out that the reason for the occurrence of beri-beri on a diet in which white rice forms the staple, lies in the fact that such rice is deficient in substances which are essential for the normal maintenance of nerve nutrition.

In the fresh padi, parboiled rice, or that prepared by Malay methods, these substances are present in adequate amounts, and in the rice polishings (produced in the manufacture of white rice) they exist super-abundantly. They are, therefore, contained in the external layers of the grain, and white rice differs from the other varieties, in much the same way as white bread differs from Hovis.

These gentlemen show that there is no question whatever of a poison, or fungus, developing in the grain with age, for the white rice is just as potent for harm on the day it is milled as at any subsequent period. White rices also differ among themselves in regard to their harmful effects, the Rangoon being much less so than the Siamese.

There seems also no doubt that the other constituents of the diet may make up for what is lacking in the white rice. This would explain the rarity of the disease among the towkays, shop assistants and Hylam house-boys, who supplement their white rice diet by many other foodstuffs; and the frequency in mining camps, agricultural cooly lines, asylums, hospitals and gaols, where the staple is white rice, and little else.

An analysis of the various rices was made at the Institute and the phosphorus content (expressed as $P^2 O^5$) determined with the following result:

	Per cent.
Parboiled rice not causing disease in fowls after many weeks feeding	.469
White rice causing the disease in fowls in a few weeks	.277
Rice polishings	4.2

But most important of all it was found that feeding fowls on this same sample of white rice, plus rice polishings, did not cause the disease, all the fowls remaining healthy.

It is too soon to make suggestions, but there can be no doubt that the main line of prophylaxis will be inspection and regulation of dietaries. It seems that by such simple means beri-beri may be stamped out and another record added to the romance of scientific medicine.

18. **LEPROSY.**—Dr. Graham, who is in charge of the leper colony at Pulau Pangkor Laut, suggests that the "Nastin treatment" be given a fair trial.

Now shortly put the Nastin treatment amounts to this: Deycke Pasha, of Constantinople, found that Benzoyl chloride deprived tubercle bacilli of their greasy coat. He drew the conclusion that it would do so also in the case of the lepra bacilli (which belong to the same group, but unlike tubercle cannot be cultivated.)

Nastin itself is a fatty principle extracted from an organism which Deycke Pasha cultivated from a leper, not the leper bacillus itself. Now when this Nastin was injected into lepers it was found to give a reaction similar to that of tuberculin in tuberculosis.

Deycke found that Benzoyl chloride given by itself did not reach the leper bacilli, but was wasted and lost in other directions. It wanted to be guided to the bacilli, and that guidance was found in combining it with Nastin.

Benzoyl-Nastin is then the substance which is injected for the cure of leprosy.

Apparently the Colonial Government of British Guiana have appointed a special medical man to carry out this treatment, under the direction of Deycke Pasha himself, at the leper colony near Georgetown (*see* "The Indian Medical Gazette," November, 1909.)

Some of the photographic results I have already seen of this treatment do not appear to be very convincing, and the theory itself is rather far-fetched. I think, therefore, that until full and favourable reports are received from British Guiana our best attitude is one of healthy scepticism.

19. ANKYLOSTOMIASIS.—Ankylostoma, or hookworm infection, is widespread indeed, and in this connection I will quote Dr. Graham, of Telok Anson, who examined a large number of coolies on two estates in his district with the following results:

Name of Estate.	Number examined.	Number in which ova were present.	Percentage.
Nova Scotia ...	26	21	73.00
Sungei Wangai ...	250	172	68.80

The ankylostoma, while its numbers are small, does not give rise to much inconvenience, but when present in hundreds or thousands, they set up a grave cachexia which we call ankylostomiasis, leaving the patient helpless and bloodless and often leading to a fatal result.

The number of deaths certified as being caused directly by this infection during the year was 817, but this gives no idea whatever of the number of deaths in which this terrible and insidious disease has been a factor.

Dr. Graham has recently published an article on this subject ("Journal of Tropical Medicine and Hygiene," November 15th, 1909), and draws attention to the infection of animals with this parasite. He says "It was difficult to find an animal ankylostoma free."

Animals examined.	Ova present.	Animals examined.	Ova present.
12 dogs ...	12	2 chicks ...	—
3 goats ...	3	2 guinea pigs ...	—
3 buffaloes ...	3	1 tiger cat ...	1
6 chickens ...	6	3 cats ...	3

Now if all these animals were infected with the human parasite the problem of prophylaxis would, I fear, be almost hopeless. I believe, however, I am correct in saying that although the eggs found by Dr. Graham may have appeared to be identical with those of the human variety, yet they probably were those of other species.

The common hookworms found in dogs here are the *U. trigenocephala* and the *U. stenocephala*, both of which, as far as I know, have never been found in man. From books also I learn that the hookworm found in the goat is the *Uncinaria cernua*, and that of cattle the *Uncinaria radiata*.

Rathonge, in 1896, thought he had found the eggs of ankylostoma duodenale in the excrement of horses, he was, however, in error, for the ova and embryos, which he cultivated from them, turned out to be those of *Sclerostomum tetracanthum*, quite another genus of parasite.

A. E. Boycott and J. S. Haldane have recently issued a report on the progress of ankylostomiasis in the Cornwall Mines, and have shown that the introduction of sanitary conveniences, both above and below ground, have enormously reduced the terrible cases of breathlessness and pallor that were met with in the mines previously, but at the same time it had had little effect in diminishing the number of individuals in whose excrement ova could be demonstrated.

This shows how much may be done by managers of estates by preventing the indiscriminate casting about of night-soil, and insisting on the systematic use of trenches, or some such simple contrivance. It is well known, of course, that after its second moulting the ankylostoma can live in muddy water for weeks, or perhaps months, moving sluggishly about, and in this way the coolies become infected, mostly by its boring its way through the skin of the feet, but sometimes, possibly, by the men actually swallowing them direct.

Manifestly then the problem is summed up in cleanly habits.

20. **PHTHISIS.**—Dr. Clarke writes at some length on this subject, pointing out the rarity in this country of tuberculosis in pigs, and its complete absence in cattle. He says “The problem is narrowed down to human tubercle,” and goes on to advise notification for the better classes and compulsory isolation for the cooly classes.

For my own part I believe the above methods are somewhat drastic. The phthisis problem resolves itself, in this country, into housing reform, but it is desirable that the more crowded quarters of the towns should be visited from time to time, and where bed-ridden phthisis cases are found shut up in airless and ill-ventilated rooms, every effort should be made to persuade the friends to bring the sufferers to hospital in order to avoid them further infecting the other inhabitants of the house.

21. **INFECTIOUS DISEASES.**—Happily during the year there have been no cases of small-pox or cholera, and among other infectious complaints I have only to record 24 cases of chicken-pox and one case of measles.

METEOROLOGY.

22. The highest temperature recorded in the shade was at Batu Gajah and Grit, 96° Fahrenheit. The minimum was at Gopeng, 61° Fahrenheit.

The highest rainfall was at Taiping, 181.50 inches, the figure for the previous year being 182.48.

FINANCIAL.

23. The table below gives the revenue and expenditure of the department during the past three years :

					Revenue.		Expenditure.
1907	...	...	...	...	\$15,162.50	...	\$355,935.54
1908	...	...	...	...	21,478.02	...	399,988.77
1909	...	...	...	...	18,563.78	...	399,028.58

GENERAL.

24. Night tell-tale clocks have been introduced at the District Hospital, Larut, the European Hospital, Taiping, and the Lunatic Asylum.

At the time of writing they have been in use for more than two months, and have proved most satisfactory. I consider wherever night duty is undertaken these clocks should be gradually introduced.

MICROSCOPICAL EXAMINATIONS.—At all the larger hospitals numerous examinations have been made, in some cases amounting to many thousands. I need not point out that this means much greater accuracy of diagnosis than was possible in former times.

DIETS.—On the Resident's instructions parboiled rice was substituted for Rangoon white rice in all the hospitals of Perak in February (with a few exceptions, such as the Malay Hospital at Kuala Kangsar and the Malay Leper Settlement at Pulau Pangkor Laut.)

On the recommendation of a special committee, appointed by the Resident-General, new diet scales were drawn up, and brought into use in November, for six months trial.

W. B. ORME,
Acting Senior Medical Officer, Perak.

